**Citizen AI Chatbot - Solution Architecture**

| **Date** | **26 June 2025** |
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| **Team ID** | LTVIP2025TMID32134 |
| **Project Name** | Citizen AI Chatbot |
| **Maximum Marks** | 4 Marks |

**Solution Architecture:**

The architecture bridges government service challenges with AI-powered solutions by:

* Deploying IBM Granite models for accurate query resolution
* Integrating sentiment analysis for real-time feedback
* Ensuring 24/7 multilingual support

**Citizen AI Architecture Diagram:**

* **Citizen Input Channels**
  + Web portal
  + WhatsApp/SMS
  + Government office kiosks
* **AI Processing Layer**
  + IBM Granite-3B model (NLP engine)
  + Watson NLP (sentiment analysis)
  + Language translator (5 Indian languages)
* **Backend Services**
  + IBM Cloud Functions (query routing)
  + Cloudant DB (knowledge repository)
  + Redis Cache (response acceleration)
* **Output Systems**
  + Automated responses (text/voice)
  + Government service dashboards
  + Alert escalations (for unresolved queries)
* **Security**
  + IBM Cloud IAM (access control)
  + Data encryption (HIPAA compliant)